

1/19/1

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Optical system for inspecting goods on conveyor, e.g. fruit or eggs, uses single camera to receive images formed by light reflected directly off goods or indirectly via mirrors

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Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
NL 1013375	C2	20010424	NL 991013375	A	19991022	200150 B

Priority Applications (No Type Date): NL 991013375 A 19991022

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
NL 1013375	C2	18	B07C-005/342	

Abstract (Basic): NL 1013375 C2

NOVELTY - A single camera (30) is used to receive images of the goods (P) formed by a first beam of light (I) coming directly from the top half of each product and second and third beams of light (II, III) coming from either side of the product via pairs of mirrors (20a, 20b). The corresponding overlapping images are formed next to each other on the imaging surface (40) of the camera.

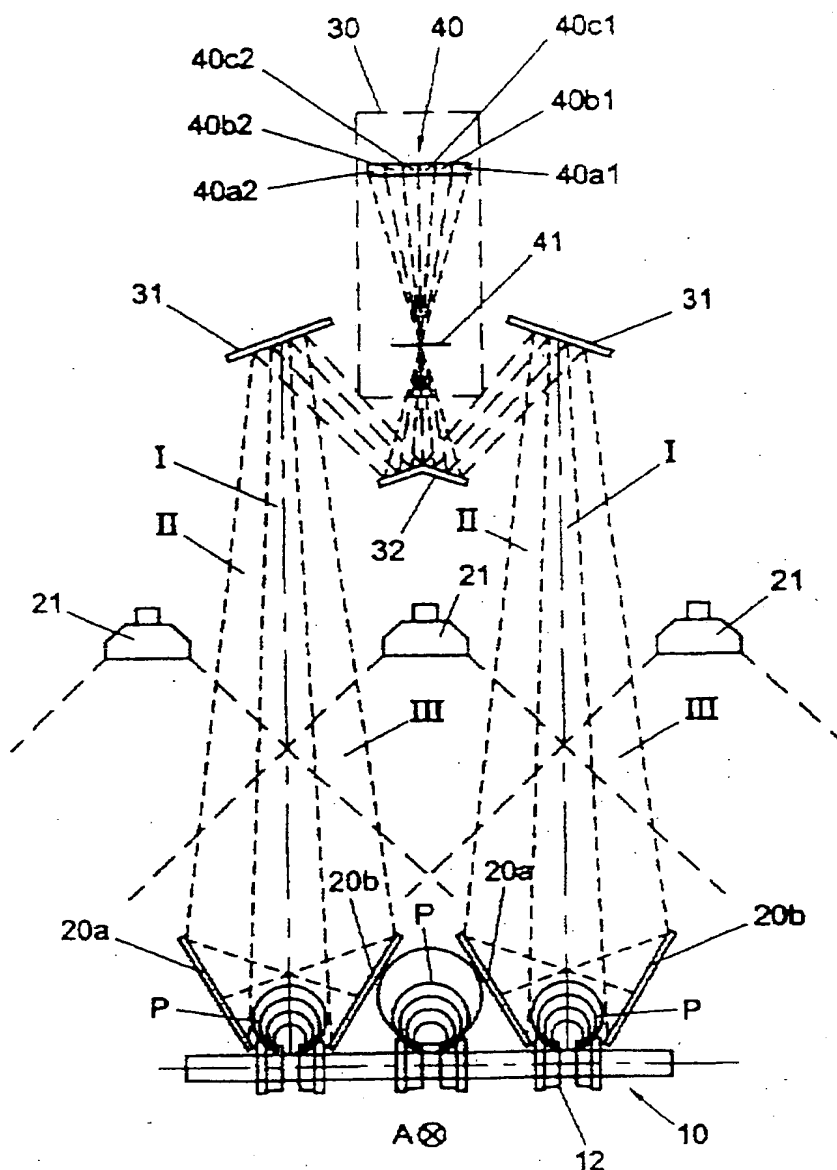
DETAILED DESCRIPTION - The goods are transported on the conveyor in at least one row and during transport they are free to rotate. An overhead light (21) is used to illuminate the goods and a camera receives images from the illuminated goods. A pair of mirrors is provided for each row of goods, the mirrors being arranged symmetrically on either side of the row. The length of the mirror in the transport direction is equal to the length of the illuminated goods path.

USE - For inspecting fruit for stains, damage and the presence and position of crowns or stems.

ADVANTAGE - A more reliable and quicker selection and sorting is possible.

DESCRIPTION OF DRAWING(S) - Figure 2 shows an optical system in which a single camera is used to receive images from two parallel rows of goods separated by an intermediate row of goods.

Conveyor (10)
Rollers (12)
Mirrors (20a, 20b)
Light (21)
Camera (30)
Mirrors (31, 32)
Imaging surface (40)
Focused light (40a1-40c2)
Lens (41)
Transport direction (A)
Reflected light (I-III)
Goods (P)
pp; 18 DwgNo 2/3



Title Terms: OPTICAL; SYSTEM; INSPECT; GOODS; CONVEYOR; FRUIT; EGG; SINGLE;
 CAMERA; RECEIVE; IMAGE; FORMING; LIGHT; REFLECT; GOODS; INDIRECT; MIRROR
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